What Is Claimed Is:

1.   1.   A system for equipment malfunction detection and
2. diagnosis, comprising:
3.   equipment to transfer status information thereof at
4.   preset intervals; and
5.   a detection/diagnosis unit coupled to the equipment to
6.   receive the status information, check whether the
7.   status information conforms to a process control
8.   standard, and if not, determine that the
9.   equipment has a malfunction.

1.   2.   The system as in claim 1 further comprising a
2. status information database for storing the status
3. information of the equipment.

1.   3.   The system as in claim 1 wherein the
2. detection/diagnosis unit further generates a notification if
3. the equipment malfunctions.

1.   4.   The system as in claim 1 further comprising a
2. diagnostic database from which a recovery measure for the
3. malfunction is retrieved by the detection/diagnosis unit if
4. the equipment malfunctions.

1.   5.   The system as in claim 1 wherein the
2. detection/diagnosis unit further stops operation of the
3. equipment if the equipment malfunctions.

1   6.   The system as in claim 1 wherein the status

2   information comprises a parameter value corresponding to at

3   least a process parameter.

1   7.   The system as in claim 6 wherein the equipment is

2   semiconductor furnace equipment.

1   8.   The system as in claim 7 wherein the process

2   parameter comprises a processed material identity, a wafer

3   count, a process program identity, a chamber identity, an

4   operator identity, a boat map, a step identity, a zone

5   temperature, a pressure, a mass flow controller, a gas flow,

6   a valve opening angle, or a leakage pressure.

1   9.   A method for equipment malfunction detection and

2   diagnosis, comprising the steps of:

3   transferring status information of equipment at preset

4   intervals to a detection/diagnosis unit; and

5   checking whether the status information conforms to a

6   process control standard, and if not, determining

7   that the equipment has a malfunction.

1   10.   The method as in claim 9 further comprising

2   storing the status information of the equipment.

1   11.   The method as in claim 9 further comprising

2   generating a notification if the equipment malfunctions.

1   12. The method as in claim 9 further comprising
2   retrieving a recovery measure for the malfunction by the
3   detection/diagnosis unit if the equipment malfunctions.

1   13. The method as in claim 9 further comprising
2   stopping operation of the equipment if the equipment
3   malfunctions.

1   14. The method as in claim 9 wherein the status
2   information comprises a parameter value corresponding to at
3   least one process parameter.

1   15. The method as in claim 14 wherein the equipment is
2   semiconductor furnace equipment.

1   16. The method as in claim 15 wherein the process
2   parameter comprises a processed material identity, a wafer
3   count, a process program identity, a chamber identity, an
4   operator identity, a boat map, a step identity, a zone
5   temperature, a pressure, a mass flow controller, a gas flow,
6   a valve opening angle, or a leakage pressure.